

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/002743

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.⁷ C12N15/87, A61K31/7088, 47/48, A61P43/00, 35/00, 35/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.⁷ C12N15/87, A61K31/7088, 47/48, A61P43/00, 35/00, 35/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2005
Kokai Jitsuyo Shinan Koho	1971-2005	Toroku Jitsuyo Shinan Koho	1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
CAPLUS (STN), JICST FILE (JOIS), BIOSIS/MEDLINE/WPIDS (STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2004-275140 A (National Institute of Advanced Industrial Science and Technology), 07 October, 2004 (07.10.04), Full text (Family: none)	1-13
Y	Kosuke MARUYAMA et al., "DNA Conjugate no Saiboshitsu Kyokuzai", Kagaku Kanren Shibu Godo Kyushu Taikai Koen Yokoshu, 05 July, 2003 (05.07.03), Vol.40 th , page 146, upper part	1-13
Y	Kotomi SASAKI et al., "DNA Conjugate o Riyo suru PCR Hanno to Kakunai Delivery", Kagaku Kanren Shibu Godo Kyushu Taikai Koen Yokoshu, 05 July, 2003 (05.07.03), Vol.40 th , page 146, lower part	1-13

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
02 May, 2005 (02.05.05)Date of mailing of the international search report
24 May, 2005 (24.05.05)Name and mailing address of the ISA
Japanese Patent Office

Authorized officer

Facsimile No.

To.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/002743

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KUBO T. et al., A novel approach for the solid phase synthesis of DNA-peptide conjugates, Nucleosides Nucleotides & Nucleic Acids, 2001, Vol.20, Nos. 4 to 7; pages 1321 to 1324	1-13
Y	KUBO T. et al., Synthesis of DNA-peptide conjugates by solid-phase fragment condensation, Org.Lett., 24 July, 2003 (24.07.03), Vol.5, No.15, pages 2623 to 2626	1-13
Y	KUBO T. et al., Conjugate DNazymes, Nucleic Acids Research Supplement, 2003, No.3, pages 177 to 178	1-13
Y	KUBO T. et al., Antisense effects of DNA-peptide conjugates, Nucleic Acids Research Supplement, 2003, No.3, pages 179 to 180	1-13
Y	KUBO T. et al., Control of intracellular delivery and inhibition of genetic expression by DNA-peptide conjugates, Nucleic Acids Research Supplement, 2003, No.3, pages 237 to 238	1-13
E,X	JP 2005-27569 A (National Institute of Advanced Industrial Science and Technology), 03 February, 2005 (03.02.05), Full text (Family: none)	1-13
P,X	KUBO T. et al., Efficient cleavage of RNA, enhanced cellular uptake, and controlled intracellular localization of conjugate DNazymes, Bioorg.Med.Chem.Lett., 03 January, 2005, Vol.15, No.1, pages 167 to 170	1-13

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Each of the inventions as set forth in claims 1 to 8 relates to a DNA or an RNA modified at a terminus with a peptide via a bifunctional linker having a specific chemical structure represented by the formula as set forth in claim 1.

In contrast, the inventions relating to an siRNA as set forth in claims 9 to 13 are specified merely by the introduction of a chemical modification group. Namely, it is not mentioned that the chemical modification group has the specific chemical structure as described above.

Thus, these groups of inventions are not considered as relating to a group of inventions so linked as to form a single general inventive concept.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.